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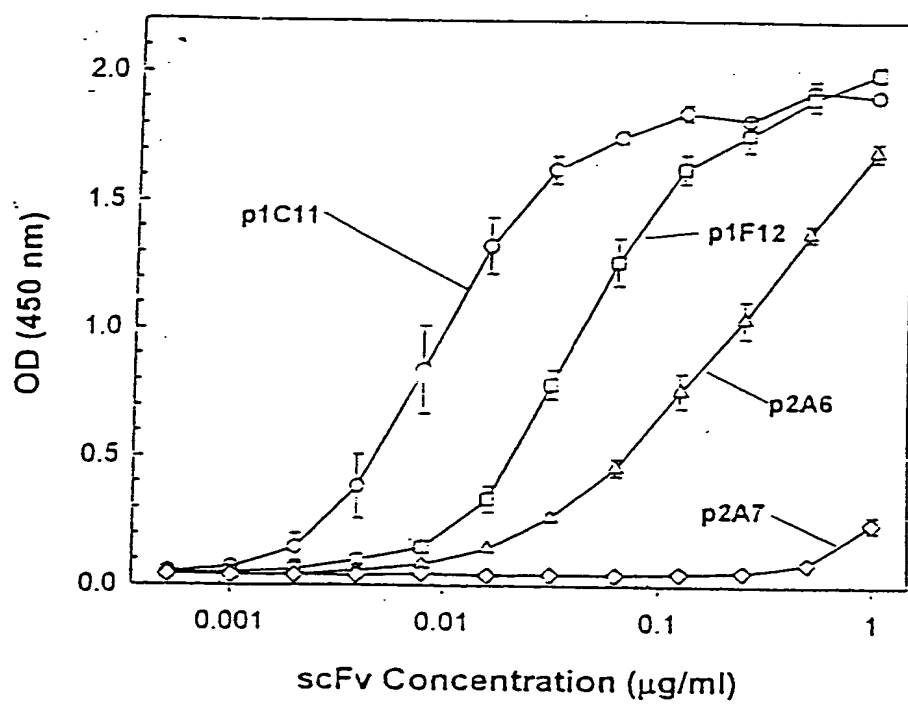
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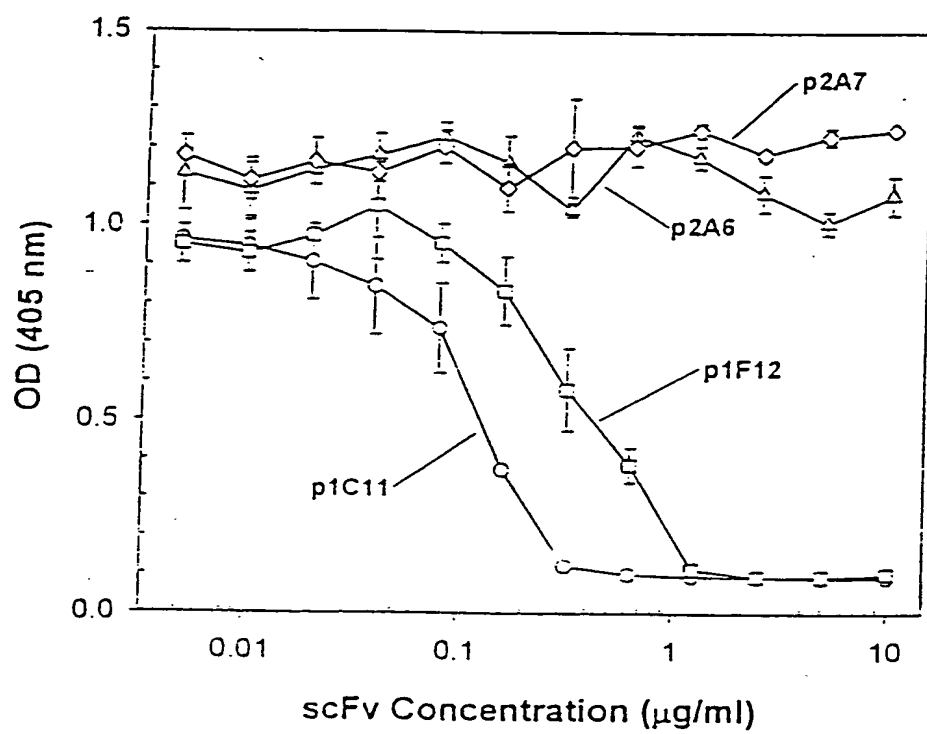
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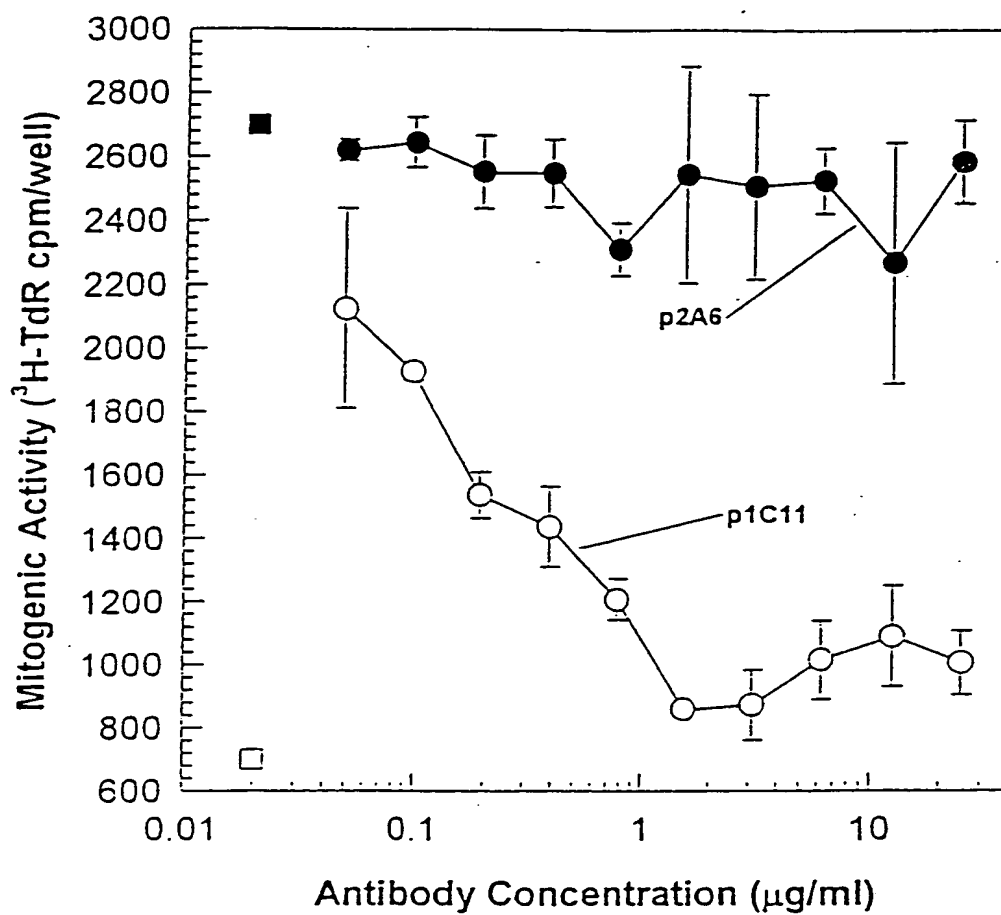
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**FIGURE 1**



**FIGURE 2**



**FIGURE 3**

HindIII  
GAACTTATGGGATGGTTCATGTCTCATCCTTTTCTAGTAGCAACTGCAACTGGAGTACAT  
 M G W S C L I L F L V A T A T G V H  
 → leader

TCACAGGTCAAGCTGCAGCAGTCTGGGGCAGAGCTTGTGGGGTCAGGGGCCTCAGTCAAA  
 S Q V K L Q Q S G A E L V G S G A S V K  
 → VL

TTGTCCTGCACAACTTCTGGCTTCAACATTAAAGACTTCTATATGCACTGGGTGAAGCAG  
 L S C T T S G E N I K D F Y M H W V K Q  
 CDR-H1

AGGCCTGAACAGGGCCTGGAGTGGATTGGATGGATTGATCCTGAGAATGGTGATTCTGAT  
 R P E Q G L E W I G W I D P E N G D S D  
 CDR-H2

TATGCCCCGAGTTCCAGGGCAAGGCCACCATGACTGCAGACTCATCCTCCAACACAGCC  
Y A P K F Q G K A T M T A D S S S N T A

TACCTGCAGCTCAGCAGCCTGACATCTGAGGCACTGCCGTCTATTACTGTAATGCATAC  
 Y L Q L S S L T S E D T A V Y Y C N A Y

TATGGTGACTACGAGGCTACTGGGGCCAAAGGGACACGGTCACCGTCTCCTCAGGTGAG  
Y G D Y E G Y W G Q G T T V T V S  
 CDR-H3

BamHI  
TGGATCC

HindIII  
AAGCTTATGGGATGGTTCATGTATCATCCTTTTCTAGTAGCAACTGCAACTGGAGTACAT  
 M G W S C I I L F L V A T A T G V H  
 → leader

TCAGACATCGAGCTCACTCAGTCTCCAGCAATCATGTCTGCATCTCCAGGGGAGAAGGTC  
 S D I E L T Q S P A I M S A S P G E K V  
 VL

ACCATAACCTGCGAGTGCCAGCTCAAGTGTAAGTTACATGCACTGGTTCCAGCAGAAGCCA  
 T I T C S A S S S V S Y M H W F Q Q K P  
 CDR-L1

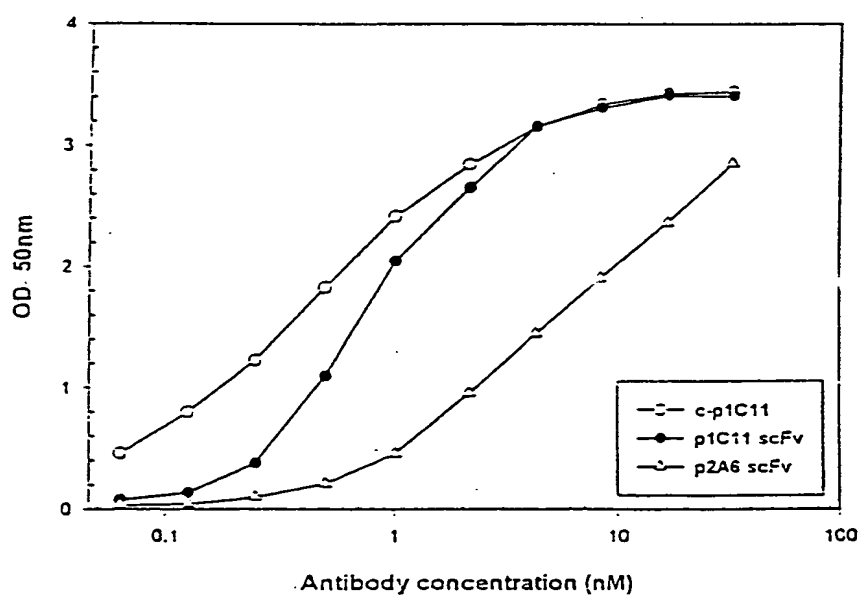
GGCACTTCTCCCAACTCTGGATTCTATAGCACATCCCACTGGCTTCTGGAGTCCCTGCT  
 G T S P K L W I Y S T S N L A S G V P A  
 CDR-L2

CGCTTCAGTGGCAGTGGATCTGGGACCTCTTACTCTCTCACAATCAGCCGAATGGAGGCT  
 R F S G S G S G T S Y S L T I S R M E A

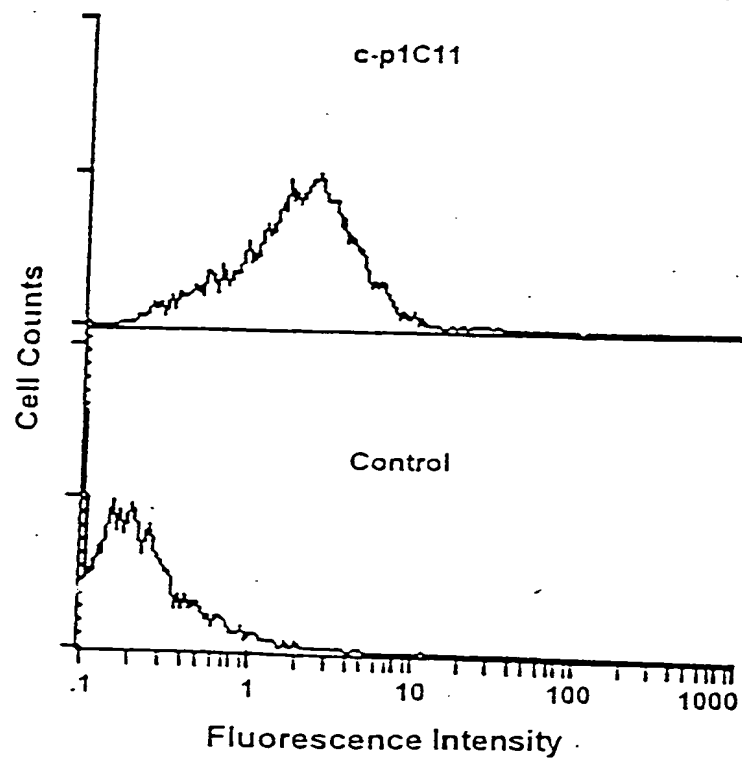
GAGATGCTGCCACTTATTACTGCCAGCAAAGGAGTAGTTACCCATTACAGTTCCGGCTCG  
 E D A A T Y Y C Q Q R S S Y P F T F G S  
 CDR-L3

BamHI  
 GGGACCAAGCTGGAAATAAAACGTGAGTGGATCC  
 G T K L E I K

FIGURE 4



**FIGURE 5**



**FIGURE 6**

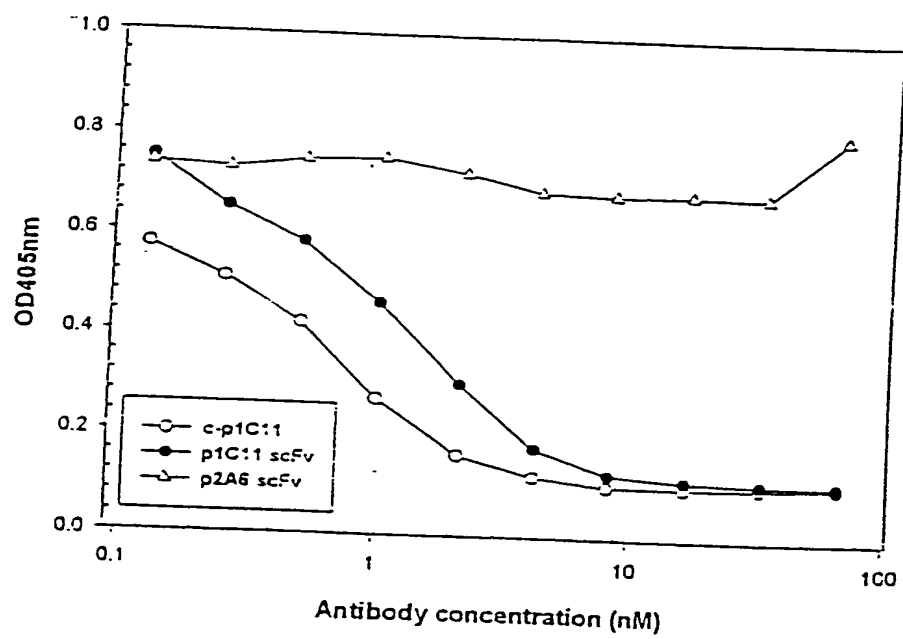


FIGURE 7



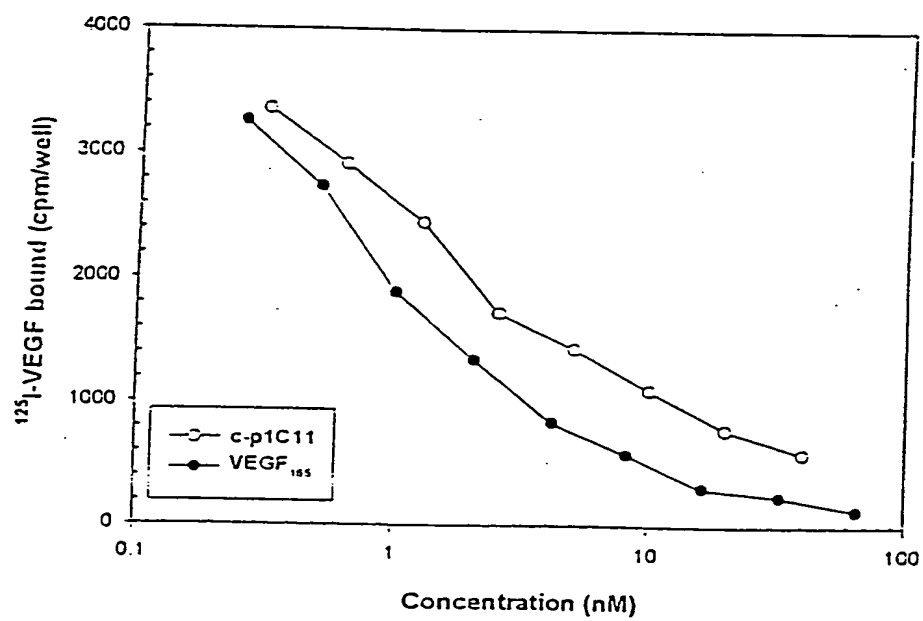
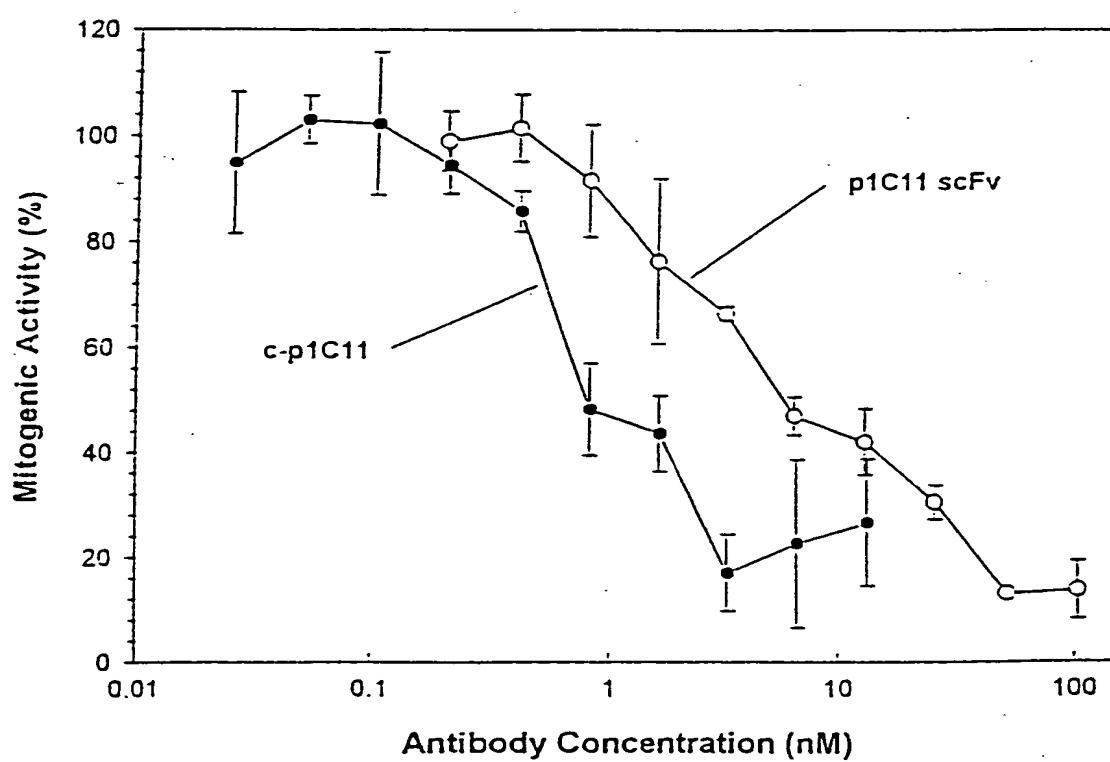


FIGURE 8



**FIGURE 9**

Table 1 KDR-binding analysis of anti-KDR scFv antibodies

scFv clone	KDR binding <sup>1</sup> (ED <sub>50</sub> , nM)	VEGF blocking <sup>2</sup> (IC <sub>50</sub> , nM)	Binding kinetics <sup>3</sup>		
			$k_{on}$ (10 <sup>5</sup> M <sup>-1</sup> s <sup>-1</sup> )	$k_{off}$ (10 <sup>-4</sup> s <sup>-1</sup> )	$K_d$ (10 <sup>-9</sup> M)
p1C11	yes (0.3)	yes (3.0)	1.1	2.3	2.1
p1F12	yes (1.0)	yes (15)	0.24	1.4	5.9
p2A6	yes (5.0)	no (> 300)	4.1	46.1	11.2
p2A7	no (NA)	no (> 300)	NA	NA	NA

1. Determined by direct binding ELISA, numbers in the parenthesis represent the scFv concentrations that give 50% of maximum binding (also see Fig. 1); 2. Determined by competitive VEGF blocking ELISA, numbers in the parenthesis represent the scFv concentrations required for 50% inhibition of KDR binding to immobilized VEGF (also see Fig. 2. i); 3. Determined by BIAcore analysis, NA, not applicable.

**Table 2** Binding kinetics of p1C11 scFv and c-p1C11 to KDR receptor

Antibody	$k_{on}$ ( $10^5 \text{ M}^{-1} \text{ s}^{-1}$ )	$k_{off}$ ( $10^{-4} \text{ s}^{-1}$ )	$K_d$ ( $10^{-9} \text{ M}$ )
p1C11 scFv	1.11	2.27	2.1
c-p1C11	0.63	0.52	0.82
VEGF	1.87	1.81	0.93

\* All rates are determined by surface plasmon resonance using BLAcore system  
and are mean of at least three separate determinations.